

From Manufacturing to Advanced Services: The (Uneven) Rise and Decline of Mediterranean City-Regions

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Abstract - Uneven changes in the global urban hierarchy have given way to new forms of relationships between urban and rural areas based on complementarities, cooperative and specialized exchange of services and goods, abandoning the additive processes of growth guided by industrialization and urbanization. Representing a distant notion from traditional concepts in regional studies such as 'compact cities' or 'suburbs', 'gravitation' or 'hierarchy', the 'city-region' paradigm has stimulated different visions to be recomposed within the 'sustainability' framework. With global changes, the 'mega-city region' model has starting to take the lead in the development of contemporary urban agglomeration. In this study, considerations over the emergence of this urban model in the Mediterranean region will be presented to investigate the relationship between dispersed urbanization and consolidating southern European city-regions. While Mediterranean cities have been considered for long time as 'ordinary' cities, rather distant from the 'globalized' northern urban models, most of these cities are characterized by distinctive socioeconomic traits possibly open to competition and globalization. The present contribution describes the emergence of a Mediterranean urban area, Athens, as a new 'city-region' in the context of urbanization processes in Greece and in the Mediterranean basin as a whole. One of the clearest indications of urban competitiveness amongst emerging and established large city-regions is the fight for hosting mega-events. The final objective of the study is to understand how the efforts for increasing urban competitiveness are impacting new forms of city-regions, mainly based on low-density settlements reflecting discontinuous urbanization.

Keywords - Sustainability, Urban sprawl, Mega-city regions, Industrial concentration, Athens.

1. Introduction

Transformations of the world economy and the emergence of mega-city regions suggest that urban

dynamics will inevitably be guided by new objectives and opportunities (Davoudi, 2008). Since the early 1990s, processes of urban expansion, especially in economically-dynamic, emerging areas seem to be increasingly associated with an 'enlargement of the base of the urban pyramid', implying a deviation from the hierarchical principle of Christaller, which predicts that high-rank services were located in the most important and economically-powerful cities (Etherington and Jones, 2009). Since the early 1980s, a progressive change in the dominant urban paradigm was emerging with the creation of a global system of production and trade exchange among a large network of cities (and, in some cases, large urban regions). The ability to dominate this new local system was depending on the financial, economic and social capital produced in (and attracted by) each city (Harrison, 2007). Empirical evidence has suggested that (changing) urban hierarchies have recently given way to new forms of relationships between urban and rural areas based on complementarities, cooperative and specialized exchange of services and goods more than on additive processes guided by city demographic size or economic dimension (Hall, 2009). Geographies of urban expansion, with the implicit formation of 'city-regions', are discussed extensively in Scott (2001a, 2001b), Taylor (2004), Neuman and Hull (2009).

City-regions have developed on urban clusters, intended as interconnected and specialized nodes of production, developing an economic power suitable for international competition (Krueger and Savage, 2007). Representing a distant notion from traditional concepts in urban studies such as 'compact city' or 'suburbs', 'gravitation' or 'hierarchy', the 'city-region' concept thus provides different visions to be

recomposed within the 'sustainability' paradigm (Jonas and Ward, 2007). Physical-institutional and economic-territorial dimensions of urban growth have to be fully understood by integrating economic, sociology, planning, and landscape perspectives in a thorough debate on the relationship between form and functions of cities with respect to sustainability and competitiveness targets (Klosterman and Musterd, 2001).

In the last decades, globalization has negatively impacted the equilibrium of many urban systems around the world. The new economy of global markets is deeply altering the state of various cities, as they are now operating in a worldwide context (Brenner, 2003). Huge and ever-increasing amounts of economic activity (input-output chains, labor migrations, trade, foreign investment, international business operations, monetary flows) now occur in extensive cross-national networks (Deas and Giordano, 2003). As globalization unfolds, it creates conflicts and predicaments that in turn activate a variety of political responses and institution-building efforts (Jessop, 2005).

According to Hall (1997) and Sassen (1991), it is now time to consider major urban systems as mega-city regions. These can be defined as node points in the global economic system which compete amongst one another for the attraction of human and financial capital (Ward and Jonas, 2004). Taylor (2004) has defined 'global city-regions' and 'mega-city regions' as the leaders of the world urban hierarchy. Amongst the first city-regions of the world are New York, London, and Tokyo (Beavenstock et al., 1999). These were the first urban centers to be considered as the node points of the global economy. As a result, entrepreneurial city models were consolidated worldwide, with direct effects on the socioeconomic and spatial structure of contemporary cities (Townsend, 2009). While the term 'global' is intended for a high degree of internationalization of the economy and the society (Knox and Taylor, 1995), city regions work as strategic centers for high value-added economic functions for the international business world (Kratke, 2001).

The two main consequences of the transformation of cities to the 'mega-city region' model are (i) increased cultural and demographic heterogeneity and (ii) a pronounced change in the spatial morphology of the city (McCann, 2007). Changes in the cultural and demographic characteristics are induced primarily by large-scale migration into city-regions. Migration has been directed toward the largest city-regions, creating

some of the most culturally diverse urban agglomerations in the history. As with so much that has been happening in this age of intensified globalization, this increased cultural heterogeneity has been associated with both explosive dangers and create new opportunities for social mobility and social justice (e.g. Bayona-Carrasco and Gil-Alonso, 2012).

Whereas most metropolitan regions in the past were focused mainly on one or perhaps two clearly-defined central cities, the city-regions of today are becoming increasingly polycentric or multi-clustered agglomerations (Davoudi, 2003). Two extreme examples of such multi-clustered agglomerations are represented by Shanghai and the Pearl River Delta, global city-regions that each contain more than 30 million inhabitants (Taylor et al., 2002). Moreover, in virtually all mega-city regions there has been a rapid growth of outer cities and edge cities, as formerly peripheral or rural areas far from old downtown cores have developed as urban centers in their own right (Rodriguez-Pose, 2008). The blurring of once rigid and clearly defined boundaries has been an integral part of the globalization process and the new information age, and this is now reflected in the increasingly ambiguous meaning of what is urban, suburban, exurban, or indeed rural or not urban at all (Phelps et al., 2006).

While Mediterranean cities have been considered for long 'ordinary' cities, rather distant from the 'globalized' northern urban models, most of these cities are characterized by distinctive socioeconomic traits possibly open to competition and globalization (Amin and Graham, 1997). The millenary history of the Mediterranean region justifies the peculiar structures and functions observed at the regional scale and the dominant economic and social assets found at the local scale (Monclús, 2000). In an optic of world-wide change, is the 'mega-city region' model starting to take the lead in the development of Mediterranean cities? The characteristics of large city-regions and the effects of this territorial reality on new urban development paths are discussed in the following sections. Considerations over the emergence of this urban model in the Mediterranean region will be exposed in section 2. The relationship between dispersed urbanization and consolidating southern European city-regions was debated in section 3. Sections 4 and 5 deal with the consequences that the emergence of a Mediterranean urban area, Athens, as a new city-region will have on the urbanization processes of Greece and the entire Mediterranean basin. One of the

clearest indications of urban competitiveness amongst emerging and established large city-regions is the fight for hosting mega-events. After having given a brief description of the effects and importance of these major global happenings, the implications of the 2004 Olympic Games on Athens' region will be analyzed. The objective is to understand how the efforts for increasing the urban competitiveness and image of Athens (through infrastructural development, construction activities and image enhancement strategies) are impacting on a new form of the city-region, mainly based on dispersed settlements reflecting discontinuous urbanization.

2. Transforming Mediterranean cities: the pressure on urbanization in (emerging) metropolitan regions

"The history of the Mediterranean is the history of its cities" (Leontidou, 1990). The Mediterranean region contains some of the oldest cities in Europe, many dating from ancient time. Their history is much older than many Northern European cities that have developed only after the end of the Middle Ages. This means that urban patterns of Mediterranean cities have developed over a greater period of time, experiencing a more complex succession of governments, economic systems and social organizations (King et al., 1997). Overpopulated agglomerations of the past determined the shapes of today's modern cities. Beginning with Caesar's Rome which contained inside its walls (delimiting an area of no more than 15 square miles) approximately 400,000 inhabitants, the Mediterranean region hosted some of the first urban monsters (Costa et al., 1991). Immigration has been another important factor that took part in the exponential and rapid growth of Mediterranean cities during the 20th century. From the coasts of Northern Africa and Eastern Europe, most of the Mediterranean regions experienced intense immigration flows. This phenomenon has had and is having relevant consequences on the social organization of these cities. As Italy, Spain, Turkey, Greece, and Portugal are becoming more developed, the native-born population was dropping rapidly and the presence of foreign immigrants was increasing (Turok and Mychненко, 2007). As a result, Couch et al. (2007) concluded that "Rome, Madrid and, Athens are demographically all new cities".

Urbanization is caused by push- and pull-factors, the structure of the economy, and the stage of economic development. Population growth has been a major driver for the rapid expansion of large cities.

Due to different stages of demographic transition, between 1850 and 2000, the population in the five Southern European EU-member countries doubled, while that of the 12 non-European dialogue partners (including countries in the southern Mediterranean arc) increased 9-fold (King et al., 1997). From 2000 to 2050, a declining population has been projected in the five Southern and South Eastern European countries (except Albania), a slight increase in Cyprus, and major increases in North Africa (+96.6 million) and the Eastern Mediterranean (+84.3 million).

Urbanization trends in the region have differed significantly. While in Southern Europe the urbanization rate has been projected to increase by 2030, in North Africa the urbanization rate has been projected to grow even more rapidly. In the Middle East and North Africa, urbanization rates have differed (1950 - 2000), as have the projections until 2030. According to the United Nations Urbanization Prospects, by 2030, projections estimate that urban population will be 71.6% in Greece, 76.1% in Italy, 81.6% in Portugal, 82.2% in France, and 84.5% in Spain. These projections clearly evidence the growing pressure for urbanization that Southern European and Northern African cities will experience in the near future (King et al., 2001).

From 1950 to 2000, the largest coastal cities in the Mediterranean (Athens, Barcelona, Naples, Marseille) have experienced a gradual increase in urbanization rates (1.1- to 1.8-fold). Urbanization rates in these cities are expected to stabilize by 2020. Urbanization of the Mediterranean shore has been a general trend since the last two centuries. This is due to the vast areas of hills, plateau, and mountains that characterize the inland areas of the Mediterranean region, that present considerable structural handicaps for urbanization purposes. Coastalisation has intensified in the last years of the 20th century due to growing international tourism on the shores of the Mediterranean. With 150 million tourists visiting the coastal regions, the Mediterranean is in effect the primary tourist destination in the world, and the influx could double between now and 2025. Furthermore, the globalizing economy and the consequent de-structuring of traditional rural economies and societies of inland areas has significantly contributed to coastal urban growth in numerous Mediterranean countries. Coastalization of populations and the local economy has also been reinforced by major works that have developed the coastal plains, such as irrigation and drainage systems and large-scale transport

infrastructures (European Environment Agency, 2006).

Athens is considered as the dominant city in classical times and Constantinople the glory of Byzantium. Until the 19th century, when London and Paris emerged as great cities, Constantinople and Naples were the most densely populated cities in Europe. After the mid-nineteenth century, modern metropolis arose when the walls of the old cities were pulled down. Industrial revolutions, demographic booms, globalization and the transformation of the economy all played critical roles in the urbanization process of cities since the two World Wars (Leontidou, 1990). In recent times, Mediterranean countries have experienced similar models of urbanization, resulting in similar structural aspects and population levels (Allen et al., 2004). “Over-urbanization”, land speculation and poorly participatory planning were general trends in southern Europe (Arapoglou and Sayas, 2009). Most of the responsibility for such chaotic patterns of growth can be attributed to the demographic growth of the region: by 1971 Rome, Madrid, Barcelona, and Athens had between 2.6 and 3.5 million inhabitants with annual growth rates ranging from 2.8% to 3.3% (Costa et al., 1991).

3. Consolidating city-regions and dispersed urban expansion in the Mediterranean

Mediterranean urbanities have experienced since several centuries a “milder” form of today’s globalization phenomenon. After all, the Mediterranean basin has been for ages navigated by its various populations, thus creating strong connections between the different cities of the coast. Therefore, the culture, economy and urban asset of Mediterranean cities have developed through a continuous process of “exchanges” and feedback mechanisms (King et al., 1997). However, today the Mediterranean is not an isolated region as it was back in the centuries. The cities that were once dominated by great empires are now being determined by the economic will of global markets. In other words, the city-region model seems to be spreading evenly over the “the old region where olive trees grow”. The signs of this transformations can be seen in certain “behaviors” manifested by cities through urban interventions.

The massive reallocation of the population, especially of certain segments of the population (as a result of horizontal segregation) towards peri-urban areas, is a typical feature of large city-regions. In this

regard, Salvati et al. (2013) have interpreted urban dispersion as the final outcome of new individual forms of living that create a different form of space organization required by modern city models, and especially by economically-dynamic and demographically-expanding city-regions. Urban dispersion has consolidated large city-regions into a medium-small network of urban fabrics, which are welded together with low-density construction and service areas, forming a convoluted reticular pattern leaving open spaces and rural voids (Chorianopoulos et al., 2010). Use, and especially re-use, of these areas - sometimes abandoned or under-developed - is required to overcome the 'weak' urbanization of the new interstitial spaces (Beriatos and Gospodini, 2004). Alternatively, urban dispersion in city-region configurations has interpreted as a process that breaks up social models of the community, leveraging tools for a new development path (Dura-Guimerà, 2003; Delladetsima, 2006; De Muro et al., 2011). Responses to urban dispersion are thus represented by new forms of local governance that may overcome the traditional antinomy between planning and informality, restoring the original 'solidarity' between local communities and peri-urban environments (Tewdwr-Jones and McNeill, 2000).



Figure 1. An ancient map illustrating areas of mutual influence with similar cultural traits along the Mediterranean basin, forming a sort of coastal Mediterranean urban region.

Forms of self-organization revealing new mechanisms of sustainable development with socially-cohesive and spatially-balanced settlements are increasingly studied within more 'holistic' concepts of urban expansion - not restricted to economic functions alone. It was widely suggested how the quality of life and social cohesion can reveal new priorities in urban configurations and metropolitan patterns that can no longer be attributed to economic models (Salvati, 2014). In this sense, there is a growing need for analytical tools and empirical knowledge that support

urban and regional policies in a time of uncertain local development (Terzi and Bolen, 2009). In this perspective, the modalities of urban expansion are not easily described as linear functions, such as the homogenous enlargement of a continuous ring around a center of gravity. Territories oppose physical, morphological, historical and socio-cultural constraints to urban growth while offering, at the same time, permeability and communication axes facilitating expansion towards specific spatial directions, producing considerable deviations from the notion of an 'isotropic' space (Kresl, 2007).

Despite a marked heterogeneity in socioeconomic contexts, an attempt to contextualize urban dispersion in the Mediterranean region can better refer to the major metropolitan areas on the northern shore, trying to identify the most significant differences in urban trajectories with North American and western/northern European cities (Maloutas, 2007), basing on both morphological assets (compactness, density, proximity) and social dynamics (horizontal segregation, economic polarization, increasing territorial disparities). The linkage between large city-regions and urban dispersion seems to be an under-explored phenomenon in Mediterranean urban studies (Gospodini, 2009). This is probably due to three synergic aspects: (i) the impact of different urban forms, (ii) the volatile role of planning and, finally, (iii) the contrasting role of specific population segments as territorial agents of informal urban expansion. For the first dimension, settlement compactness has demonstrated to be a distinctive feature of their landscape in the largest Mediterranean cities (Kasanko et al., 2006). Compact forms have influenced urban growth in periods of demographic expansion, stimulating a very varied housing response in the different urban contexts. The common features of this response can be identified in the combination between public and private intervention spatially-additive to the original urban nuclei (Petsimeris and Tsoulouvis, 1997). In such a context, the overriding role of planning and the over-allocated space of private intervention, together with the widely recognized weakness of control tools, was crucial in shaping the new form of (evolving) city-regions (Wassenhoven, 2000). In functional terms, dispersed urban expansion in large Mediterranean city-regions coincided with a repositioning of elements of population concentration, horizontal and vertical social segregation, economic un-specialization, unequal distribution of public services, heterogeneous accessibility to transport infrastructures (Maloutas, 2003). The shift towards a

more balanced development was also influenced by the literature on the organization and evolution of 'mega-city regions', taken as an example of modernity, efficiency, and competitiveness (Salvati, 2014). The 'creative city' paradigm contributed further to the emergence of alternative lines of interpretation to the classical framework representing Mediterranean city regions as stereotypical and economically-locked (De Muro et al., 2011).

The typical characters distinguishing Mediterranean city-regions from counterparts in the remaining areas of the European continent were identified from both the morphological dimension (city's shape, relationship between compactness and density, urban growth dynamics over time and space) and functional aspects, including the demographic characteristics of the resident population, social diversification, employment profile and the characteristics of the local labor market, income and consumption patterns (Longhi and Musolesi, 2007). In this sense, what is essentially a form of space typical of the 'post-fordist' city, it is traditionally included in the regional literature, in the effort to interpret and govern the new organizational modalities of city-regions (Helbich, 2012). A dynamic Mediterranean literature of urban studies has focused on two metropolitan typologies (Couch et al., 2007). The first typology includes moderately polycentric regions evolving through the differential growth of large urban centers, medium-small cities and the connecting areas between the two types. These regions are economically-mature and affluent but with no clear hierarchy, showing urban 'continuums' that have progressively replaced the classical urban-to-rural gradient in population density (Gospodini, 2006). The second typology is traditionally formed by mono-centric cities dominating large urban regions characterized by settlement compactness and a still net density gradient. The central area is dominant over the surrounding region as far as economic and social relationships are concerned, while experiencing, after a rapid growth typical of the post-war time period, sequential waves of expansion and decline. In these cities, the process of population de-concentration has interfaced with a (more or less) pronounced industrial decentralization, reflecting a spatial relocation of industrial and service settlements from central areas to progressively more remote peripheral crowns (Economidou, 1993).

The concept of peri-urbanization takes on new perspectives of analysis in the Mediterranean cities

compared to an already well-established literature centered on 'northern' and 'western' urban experiences. The Mediterranean city is crystallized in the 'lock living' concept proposed by Muñoz (2003) who illustrates the development of Barcelona's fringe based on the evolution of urban lifestyles and consumption. The author interprets social changes in peri-urban Barcelona in relation with settlement's sprawl dominated by detached villas with swimming pools surrounded by hyper-controlled and almost fortified green estates. This adheres to a sense of understanding the suburban landscape that closely resembles the North American fringe, with low-density settlements physically disconnected from the city center (Couch et al., 2007). At the same time, the Mediterranean cities still alive in the 'chaotic metropolis in continuous transition' described by Leontidou (1990). After qualifying the pre-Olympics Athens' development as a category of spontaneity à la Gramsci, Leontidou grounded the new urban dimension within a 'social tension' context unique in Europe, delineating a path that has distinguished the 'Mediterranean city' model from developed regions in northern and western Europe but also from most of the agglomerations in the World South (Chorianopoulos et al., 2010). However, we cannot deny that in recent years several Mediterranean cities have shown signs of convergence towards expansion models typical of their northern European counterparts (European Environment Agency, 2006).

4. Evolving post-industrial Athens and the development of a new Mediterranean city-region

In the case of Attica, the way with which the entire region reacted to the 2004 Olympic Games is regarded by many as a sign that likely testifies the gradual adoption of a 'competitive city-region' model¹. The post-industrial phase of the Athenian economy begins in the second post-war period when the city lived the period of maximum urban concentration (Leontidou, 1990). Since then, shifting from production oriented towards traditional secondary (light manufacturing, construction, energy) to a service-driven economy was

relatively evident (Kourliouros, 2003). In the face of primary sector stability, the secondary sector loses positions, while the added value of services rose rapidly, contributing 43% to the national added value of tertiary sector in 1990 and 57% in 2007. Growth in services contributed to the growth of regional gross domestic product (per capita), which was higher than the national one by 18% in 1981 and by almost 38% in 2007, further consolidating the traditional economic disparities between urban and rural areas. The analysis of the sector breakdown of value added confirms the previously observed trend, highlighting the increasing importance of the tertiary sector (from 72% in 1988 to 87% in 2007) and a corresponding decline in the industrial sector (from 27% in 1988 to 13% in 2007) still sustained by construction and manufacturing sectors (Chorianopoulos et al., 2010). Despite the downturn in the industrial city, the high-intensity workforce in the secondary sector plays a fairly significant role in Athens' economic structure.



¹ The peninsular region of Attica was for a long subdivided into four prefectures (Athens, Piraeus, East Attica and West Attica), containing 115 municipalities in total. The main logic behind this subdivision was the achievement of a more or less balanced geographic distribution of the administrative workload since Attica contains almost one third of the country's population. Two county councils, those of Athens and Piraeus, now contain the larger part of the dense urban fabric

within the Athens basin. The other two county councils are those of East and West Attica containing some of the suburbs as well as the rest of the scattered settlements of Attica (Figure 2).

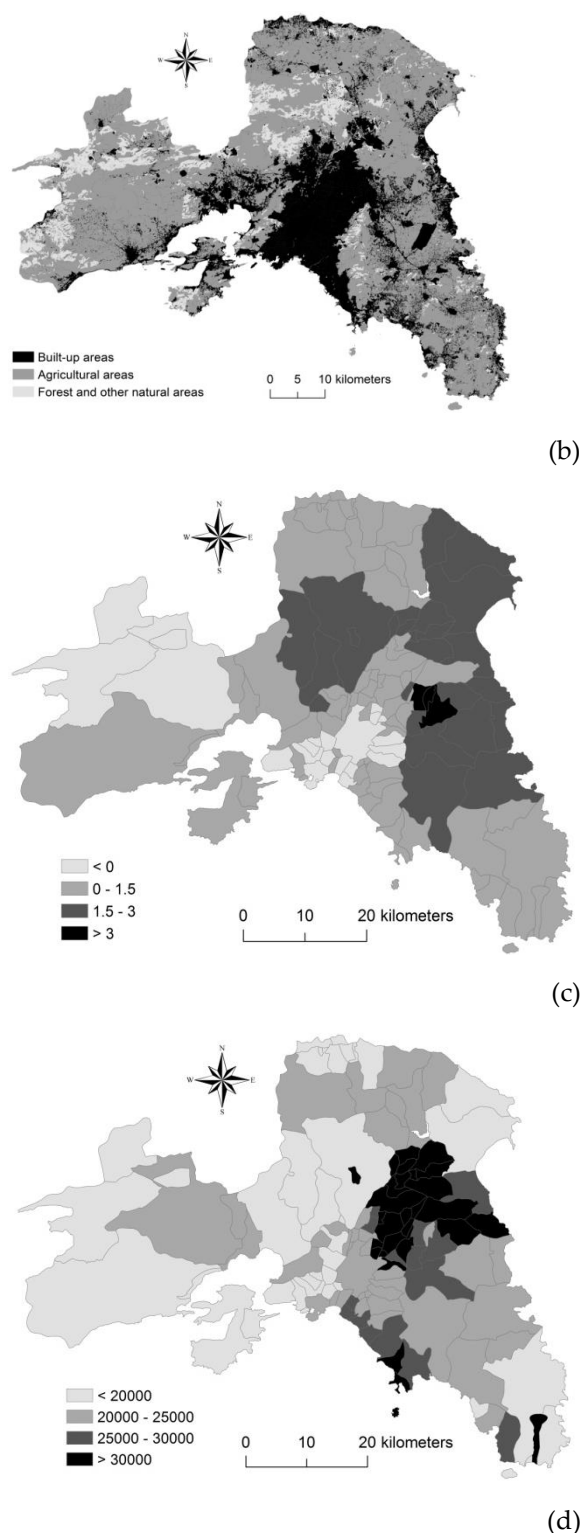


Figure 2. Municipality boundaries in Athens' metropolitan region (a), Athens' urban footprint (b), the annual rate of population growth (%) over 2001-2011 (c) and per-capita declared income (Euros) in 2008 (d).

These trends are even more evident when considering data on local units, sales volumes, added value, and employment together. Comparing greater Athens with both the rest of Attica and the whole of

Greece, the importance of large and medium-sized manufacturing industry is consolidating at urban level and even more at the metropolitan level, showing sustained growth rates with regard to sales volumes and added value generated between the 1980s and the late 2000s. The growing role of suburban Attica follows the processes of progressive industrial dislocation that we have faced earlier (Salvati et al., 2013). These processes go in the direction of a massive de-concentration of the Piraeus and Athens industrial poles in favor of a dislocation of industrial settlements in Thriasio, Messoghia and Oropos poles (Figure 3).

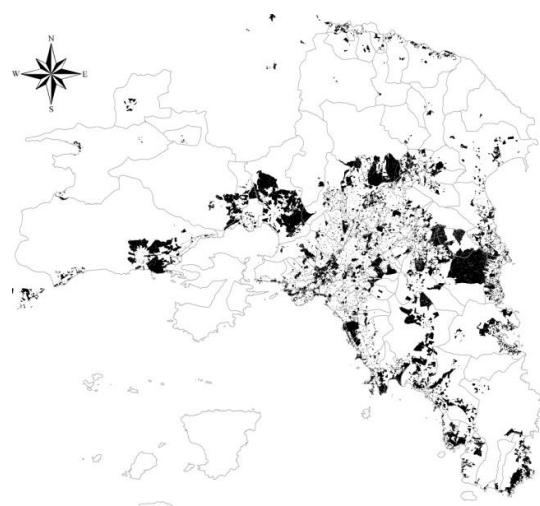


Figure 3. Spatial distribution of productive settlements (industry and services) and infrastructures in the Athens' metropolitan region.

These results also confirm the consolidation of a cluster of businesses in the first metropolitan ring, often operating in synergy with real estate and financial intermediation enterprises, experiencing a similar spatial de-localization towards suburban areas (Figure 4). The wealthiest part of the city, including north-eastern suburbs, was guiding these processes of economic growth, with industrial relocation, consolidation of advanced services and spatially-uncoordinated urban renewal. Even considering the service sector as a whole, the actual distribution of service companies no longer shows the traditional polarization in Athens and Piraeus poles, while appearing more dispersed along two spatial axes: the first is represented by the northern neighborhoods along the Attica Road), the second is located along the southern seacoast and in areas surrounding the international Airport (Delladetsima, 2006).

The process of spatial de-concentration of entrepreneurial activity is also evidenced by the increase in the number of companies observed in recent years in the municipalities of Messoghia,

Thriasio and the northern area of Attica. On the contrary, some activities maintain a typical urban localization, including publishing, printed paper, radio and television communications and related service companies, concentrating in Athens and neighboring municipalities. The process of slow diffusion of activities in the Athens' suburban area thus involving preferentially some industrial sectors, whose companies tend to be located outside the urban area in recent years, forming (more or less) explicit (and planned) clusters (Maloutas, 2007). One of these is the case of the construction industry, with two clusters positioned in the southern part of Messoghia and in the northern region of Oropos. In the face of the suburbanization of many sectors of industry and services, the gradual contraction of the primary sector has led to the expulsion of agricultural enterprises from Messoghia and Thriasio, producing a marked polarization in the areas dedicated to agriculture at the border of Viotia region and along the Athens-Corinth axis (Moissidis and Duquenne, 1997).

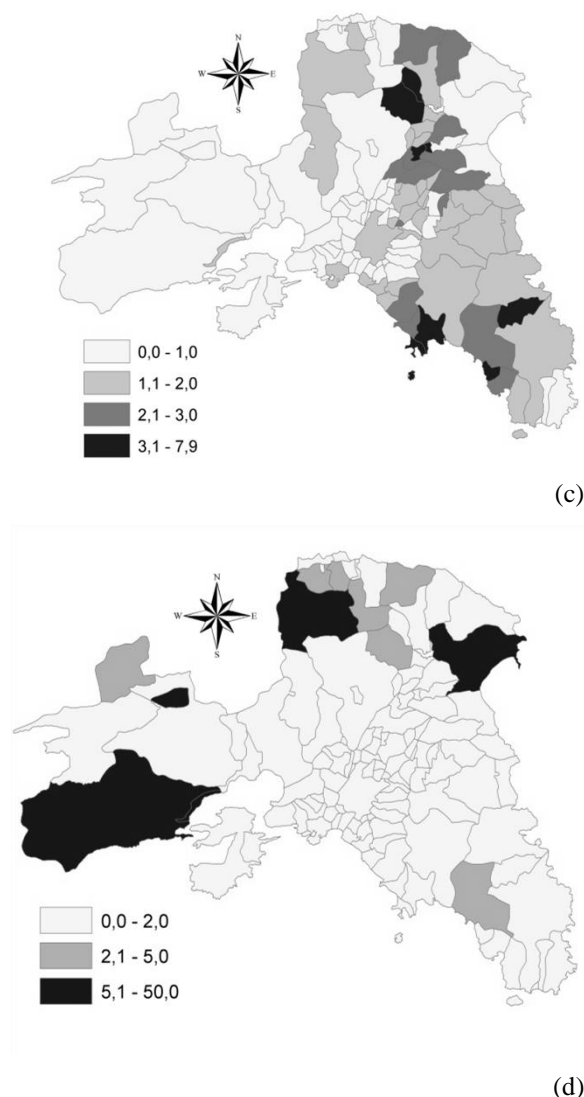
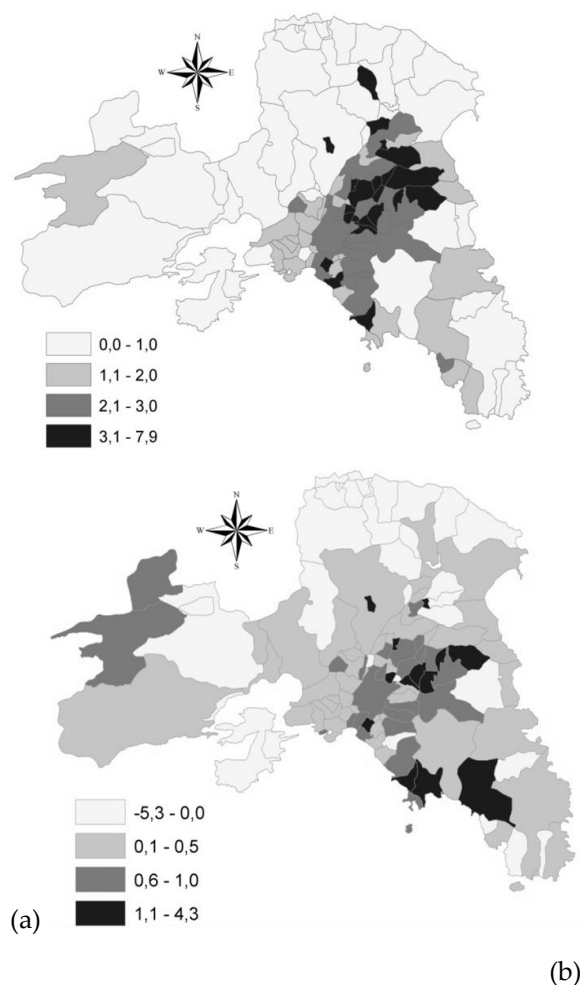


Figure 4. Percent ratio of high-tech activities (a,b) and real estate/finance activities (c,d) in total registered businesses (a,c: 2005; b,d: change over 2002-2005).

5. City-region, sprawl and infrastructural development in Attica

A major role in the formation of the actual urban configuration of the Athens' urban region has been attributed to infrastructure development coinciding with the 2004 Olympics. In this regard, it is worth referring in particular to five "strategic axes" of restructuring pre-existing infrastructures and developing new ones. These axes were already present in extensive area planning since the early 1970s, and they have represented a source of political debate for a long time up to the late 1990s (Beriatos and Gospodini, 2004).

The first axis regards the displacement of the International Airport from the area of Ellinikon, a

densely populated coastal district, with a large flat area belonging to the municipalities of Spata and Markopoulo Messoghias. This transformation created, on the one hand, a large urban void in Ellinikon, destined for recreational and green areas, and only partially filled with Olympic facilities and luxury residences, whose fate is still in the political arena. On the other hand, the new Athens' Airport has represented a factor of economic polarization for the surrounding area and is one of the causes of sprawl in Messoghia.

The second axis concerns the construction of the Attica highway, a fast-paced toll road renewing the Patras-Thessaloniki motorway, communicating west flows with those coming from the north, avoiding to cross the center of Athens. From a regional point of view, the Attica highway connects (from west to east) the tourist centers bordering the Corinthian province (Kinetta, Nea Peramos), the agricultural plain of Megara, the industrial centers of Elefsis-Aspropyrgos, the outskirts of Ano Liosia and Menidi, the northern suburbs of Kifissia and Maroussi (the center of the Olympic Infrastructure), the eastern new urbanization quarters of Pendeli, Gerakas, Glikà Nerà), the International Airport, the new port centrality of Rafina and the southern part of Messoghia. In recent years there has been a concentration of tertiary activities along this artery that has altered the original concentration of activities in the center of Athens (Gospodini, 2009).

An example is the installation of large shopping malls along the Attica highway and the urban avenues that flow there (Kifissias, Heraklion, Pendelis), with rapid changes in land-use in the surrounding quarters (Delladetsima, 2006). More generally, the construction of the Attica highway has favored urban renewal towards the northern districts, enshrined by the development of the Olympic Citadel in the northern neighborhoods of greater Athens. Maroussi, Kifissia, Chalandri, Pefki, Vrilissia, Aghia Paraskevi, originally built as villages at the slopes of Pendeli and Imitos mountains and subsequently invested in dispersed urban expansion, undergoing a transformation from residential neighborhoods where the high Athenian bourgeoisie settled (Maloutas, 2007) to new business centralities. The translation of the city's 'economic' center to the northern neighborhoods is another factor driving urban sprawl and consolidating the actual form of the city-region (Salvati et al., 2013).

The third axis concerns the modernization of the

suburban railway network ('Proastiakos'), which follows the route of Attica and connects, in the Menidi node, to the old railway line Thessaloniki-Piraeus, also renewed to create a metropolitan and interregional rail transport, developing two directions, one east-west, the other north-south, in connection with the three subway lines and the main roads (Chorianopoulos et al., 2010). The fourth axis concerns the refurbishment of the main roads in greater Athens, with the construction of a fast-moving highway ring that engages the path of Attica via an external ring road to be developed in few years. This axis includes the complete renovation of the toll-free urban highway, which currently represents the fastest link between Piraeus, Athens center, western municipalities, the second northern suburbs and northern Attica. The fifth axis includes the restructuring of the rail transport network in the urban area through the construction of a fourth metro and tram lines, fully interconnected with the metropolitan railway, Piraeus harbor, and the Airport.

The last three interventions are a potential driver for residual urban growth along the sea coast to the south, to the west in the Menidi-Aspropyrgos direction and to the north, reconnecting originally rural settlements to more than 40 kilometers from Athens with continuous urban fabric. Following these transformations, and favored by the great waterfront designing process (Gospodini, 2006), new tourist centers have been located along the southern coast, far beyond the urban boundaries to Cape Sounio, and along the eastern coast. The increased importance of the port of Rafina for links with the Aegean islands, inserted in a policy of decongesting Piraeus' harbor, one of the largest in the Mediterranean, is another element of reflection when understanding the new centrality of the Attica city-region.

The on-going infrastructure of the suburban Attica can be assessed using proxy indicators such as vehicle driving rates and the number of road accidents. The motorization rate analysis shows that growth has not been homogeneous but there are increments and decreases specific to the study area. For example, compared with the urban area of Athens, the rest of Attica has significantly increased the number of cars per inhabitant since the 1990s. Considering the entire car park, there is a progressive increase in the number of cars in the suburban area (including buses and coaches), accompanied by a slight increase in the incident rate. Even the sports infrastructure in Attica has followed somewhat overwhelming logic over the

last ten years. On the one hand, the attempt to relocate plants on a progressively larger surface (as it happened for the installations of Schiniàs, Markopoulo, Kinetta, 30 km far from the inner city) contributed to urban diffusion; on the other hand, the construction of the Olympic center of Maroussi and the restructuring of many other attraction poles in the urban area have promoted urban consolidation with service concentration around densely populated areas.

6. Conclusion

The processes of worldwide economic integration and accelerated urban growth make traditional planning and policy strategies in mega-city regions increasingly problematical while more fitting approaches remain in a largely experimental stage (Etherington and Jones, 2009). New ways of thinking about these processes and new ways of acting to harness their benefits and to control their negative effects are urgently needed, with case studies providing a more comprehensive perspective in urban studies (Hall, 2009). The only certainty is that traditional planning is being replaced by a new mode of urban regulation, determining a switch from a public urban reform system to the 'entrepreneurial city' of private-public partnerships (Ward and Jonas, 2004). Consequently, their urban development has had to adapt to the exceptionally new reality with which it was faced. Today many new mega-city-regions have developed in various parts of the world. National governments are desperately trying to boost up the image of their cities in order to enter in the prosperous but highly competitive network of the global economy (Tewdwr-Jones and McNeill, 2000). The operation of adapting the spatial and functional asset of the city inevitably requires the exploitation of urban and infrastructure development. Consequently, emerging mega-city regions are undergoing radical spatial and organizational transformations, with sprawl being one of the most pervasive socioeconomic patterns and processes of change (Lemanski, 2007). The high risk of the globalization phenomenon is that cities are losing their unique identity. Transforming large city-regions are abandoning their personal traits and characteristics, resulting in a-typical spaces which spread and repeat itself without difference over the world (Salvati, 2014). The image of the ideal city of "Trude" traced by Italo Calvino, an Italian writer, in chapter 9 of his book "The invisible cities", describes poetically the future of a world dominated by 'impersonal' and 'homogeneous' city-regions:

"If I had not read the name of the city in large

capital letters while landing at Trude, I would have believed to have arrived at the same airport of departure. The suburbs that they made me pass through were not different from the other ones, with the same yellow and greenish houses. Following the same arrows, you went around the same flowerbeds of the same squares. The street of the centre presented merchandise goods, packings and indications that changed in nothing. it was the first time that I was in Trude, but I already knew the hotel where I happened to stay; I had already said and heard my dialogues with the sellers and buyers of scrap iron; other days the same as the ones before had finished looking through the same glasses and waving belly buttons. "Why going to Trude?" I asked myself. And already I wanted to leave. "You can take the next flight when you want", they told me, "but you will arrive in another Trude, (...) the world is covered by a unique Trude that begins and never ends, only the name at the airport changes."

The Mediterranean region is passing through a period of uncertain transition. Therefore, studying the "territorial symptoms" of this undefined evolution will reveal useful to policy-makers for the adoption of correct measures in order to stimulate local development in a context of large city-regions (Giannakourou, 2005). As mentioned above, it is, in fact, the overall view, whether articulated or fragmented, that which can answer (or contribute to) the stringent demand for practical solutions to a latent but as challenging process such as dispersed urbanization in large city-regions (Catalàn et al., 2008). In Athens, the overall outcome of the 'city-region' development phase has been poorly defined, perpetuating the accentuated dualism in regional growth between (i) the tendency to urban sprawl, driven by infrastructure and the relocation of productive activities, and (ii) the maintenance of directional functions in central and semi-central areas, which consolidate the vital role of the Athens' urban area (Coccossis et al., 2005). According to Chorianopoulos et al. (2010), while expanding at a marked pace, Athens' metropolitan region is not expressive of the typical attributes of mega-city regions. These are based on (i) a rapidly changing urban form and a diversified economic structure, (ii) a thick inner network of functional relations based on local specialization and finally, (iii) the willingness of a number of urban nodes to cooperate for 'catching' the opportunities offered by globalization, according to their own identity and socioeconomic attributes (Deas and Giordano, 2003; Etherington and Jones,

2009; Neuman and Hull, 2009).

Considering the delicate economic situation that Greece is living and its project of converting Athens into a competitive city-region together create a complex reality with an ambiguous future (Salvati et al., 2013). Outcomes of this vision - well expressed in the balanced and poly-centric spatial structure of the Athens' metropolitan region envisaged by the Strategic Master Plan of Attica for the next years (Figure 5) - are producing, until now, a fragmented urban tissue, underlying weak and substantially modest transformations towards a truly balanced and socially cohesive model (Maloutas, 2003; Delladetsima, 2006; Gospodini, 2009). The recent Athens' urban trajectory was not dissimilar from other large city contexts in southern Europe, as documented by Salvati (2014), being possibly representative of a common condition in the northern Mediterranean

While being morphologically different from the mega-city regions described by the Anglophone literature (Rodriguez-Pose, 2008), the Mediterranean protagonists of immature polycentric models are in turn promising references for future studies on southern urban development (Lemanski, 2007). How the Mediterranean cities are part of this new debate and how their urban regions comply with the current urban trends in the wealthiest countries have been the subjects of recent studies (Kirby, 2004; Maloutas, 2007; De Muro et al., 2011; Salvati, 2014).

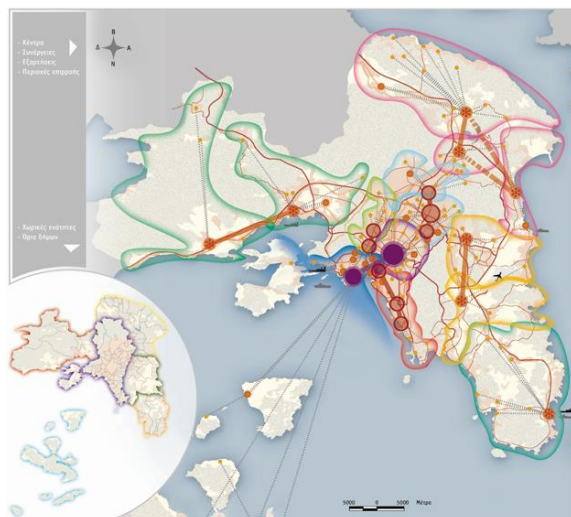


Figure 5. Emerging urban centralities in the Strategic Master Plan of Attica (2011). The two largest dots are Athens and Piraeus.

Convergence or divergence, adaptation or resilience, are the new urban trends that deserve further investigation from multiple perspectives (Longhi and Musolesi, 2007). In this sense, policy

strategies decoupled from the territorial context where they impact may have negative implications in socio-environmental issues and prove the importance of development measures specifically facing with the peculiarities of Mediterranean city-regions (Giannakourou, 2005). What should be avoided is the oversimplification of the urban competitiveness issue as a mere spatial economic problem, relating instead the economic success of local territories to non-economic place-specific variables, and promoting non-competitive factors such as original social networks, face-to-face interactions, and knowledge spill-over. Questions on the future of Mediterranean urbanization are still open, scenarios on the development of their urban regions in view of the global market are still uncertain. The rapid spreading of famous architectural landmarks, mega-events and fast-track infrastructures contribute only partly to answer these complex questions.

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